REMARKS

I. REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-2, 6-8, 12-15, and 17-18 stand rejected under *35 U.S.C. § 103(a)* as being unpatentable over U.S. Patent 5,512,131 to *Kumar* (hereafter "*Kumar*") in view of U.S. Patent 4,897,228 to *Miwa*, (hereafter "*Miwa*").

Claim 1 is directed to a device for holding a nanolithography template used for imprinting a nanolithography pattern on a substrate. The device of Claim 1 has several elements in a cooperative relationship. A body having an opening to receive the nanolithography template wherein the body is for positioning the template relative to the substrate for imprinting the nanolithography pattern on the substrate, and a supporting plate coupled to the body and positioned relative to the nanolithography template to support a force of the imprinting on the nanolithography template with the supporting plate being substantially transparent to a curing agent.

The Office Action states that *Kumar* teaches the invention of Claim 1 wherein item 46 of *Kumar* is the template of Claim 1 and item 54 is the supporting plate of Claim 1. The Office Action further states that *Kumar* fails to teach the body of Claim 1 and its cooperative relationship with the template and the other elements.

Kumar describes a process of micro-stamping a self assembled monomer (SAM) onto a surface. One of the devices that *Kumar* describes that may be made by his process is an optical switch. See *Kumar*, column 18, *ll* 1-2. The optical switch illustrated in FIG. 7a is cited by the Office Action as teaching the invention of Claim 1. The optical switch is described by *Kumar* in this section and relative to FIG. 7a as follows:

"An elastic switching member 46", formed from a hardenable fluid, is illustrated and includes surface 48 of the switching member having a plurality of indentations 50 formed therein. A modulator is placed so as to contact the switching member (46) and to place the switching surface into a first, unstressed conformation in which switching member 46 diffracts light and or into a second, stressed conformation in which switching member 46 passes light

undiffracted. *Kumar* further states: as illustrated (in FIG. 7a), a modulator in the form of a glass slide 52 is placed so as to contact the switching member 46. *Kumar* further states that another glass slide 54 may be placed on another side of the switching member. Element 54 may be a supporting plate, however, element 46 is not a template that is used for imprinting on a substrate. Element 46 is an elastic optical switching member that has been formed by imprinting. Clearly, the cited optical switch 46 of *Kumar* does not support the Examiner's contentions.

The Office Action states that *Miwa* teaches a body 3 that has an opening that accommodates a template 2 to be held that is used to imprint upon material 5. *Miwa* teaches a method of producing an optical disk. Embodiments of *Miwa* are shown in FIGS. 1a-5 and have common elements as well as variations. It is important to point out that *Miwa* is forming a disk shaped element by injection molding wherein a liquid resin is forced into a molding station. *Miwa* is not imprinting a pattern into a resin on a substrate. *Miwa* has no requirement for a body to position a template relative to the substrate. *Miwa* teaches a ring 3 that is "slidably fitted to nickel stamper 2." See *Miwa*, col. 4, *ll* 64-65. *Miwa* teaches a ring 3 that moves with respect to a nickel stamper 2. *Miwa* does not teach or suggest a "body having an opening to receive the nanolithography template wherein the body is for positioning the template relative to the substrate for imprinting the nanolithography pattern on the substrate" as recited by Claim 1. The nickel stamper 2 of *Miwa* does not imprint a pattern into material 5, rather, material 5 flows through nozzle valve 10a into a cavity formed by element 1 and elements 2 and 3. The material 5 is cured with light energy 6 through transparent element 1 while ring 3 moves with respect to stamper 2 to cut-off excess material 5 and form the outside edge of the optical disk formed by curing material 5. See col. 5, *ll* 1-30.

The cited art of *Kumar* describes an optical switch made by a molding process and does not describe the device for holding a template recited in Claim 1. *Miwa* describes a process for making an optical disk by injecting a curable resin into a cavity that has a sliding ring used to trim excess material to form the outside edge of the optical disk. Neither *Kumar* nor *Miwa*, singly or in combination, teach or suggest the invention of Claim 1. Therefore, the Applicant asserts that the Office Action fails to make a *prima facie* case of obviousness by citing references

that do not, singly or in combination, teach or suggest the same elements in the same cooperative relationship as the elements of Claim 1. The Applicant, therefore, asserts that the rejection of Claim 1 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* is traversed by the above arguments.

Claim 2 is dependent from Claim 1 and contains all the limitations of Claim 1. Claim 2 adds the limitation that the curing agent of Claim 1 comprises ultraviolet radiation. The Office Action failed to address the limitation of Claim 2 and therefore fails to make a *prima facie* case of obviousness for Claim 2. The Applicant, therefore, asserts that the rejection of Claim 2 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* is traversed by the above arguments and for the same reasons as Claim 1.

Claims 6-7 are dependent from Claim 1 and contain all the limitations of Claim 1. The Office Action failed to specifically address the limitations of Claims 6-7 and therefore failed to make a *prima facie* case of obviousness for these claims. The Applicant, therefore, asserts that the rejections of Claims 6-7 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* are traversed by the above arguments and for the same reasons as Claim 1.

Claim 8 is an independent claim. The Office Action failed to specifically address Claim 8 and therefore failed to make a *prima facie* case of obviousness for Claim 8. The Applicant, therefore, asserts that the rejection of Claim 8 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* is traversed by the above arguments and for the same reasons as Claim 1.

Claims 12-13 are dependent from Claim 8 and contain all the limitations of Claim 8. The Office Action failed to address the limitations of Claims 12-13 and therefore failed to make a *prima facie* case of obviousness for these claims. The Applicant, therefore, asserts that the rejections of Claims 12-13 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* is traversed by the above arguments and for the same reasons as Claim 8.

Claim 14 is an independent claim. The Office Action failed to a specifically address Claim 14 and therefore failed to make a *prima facie* case of obviousness for Claim 14. The Applicant, therefore, asserts that the rejection of Claim 14 under *35 U.S.C. § 103(a)* as being

unpatentable over *Kumar* in view of *Miwa* is traversed by the above arguments and for the same reasons as Claim 1.

Claims 15 and 17-18 are dependent from Claim 14 and contain all the limitations of Claim 14. The Office Action failed to specifically address the limitations of Claims 15 and 17-18 and therefore failed to make a *prima facie* case of obviousness for these claims. The Applicant, therefore, asserts that the rejections of Claims 15 and 17-18 under *35 U.S.C. § 103(a)* as being unpatentable over *Kumar* in view of *Miwa* are traversed by the above arguments and for the same reasons as Claim 14.

Claims 3-5, 9-11, and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Kumar* in view of *Miwa* as applied to claims 1-2, 6-8, 12-15, and 17-18 above, and further in view of U.S. Patent 5,515,167 to *Ledger*, (hereafter "*Ledger*") and *Semiconductor Memories*.

Claims 3-5 are dependent from Claim 1 and contain all the limitations of Claim 1. The Office Action states that *Kumar* and *Miwa* fail to teach a vacuum chuck and silicon dioxide. The Applicant has shown that *Kumar* and *Miwa*, singly and in combination, do not teach or suggest the invention of Claim 1 which includes a supporting plate. Claim 3 adds the limitation to Claim 1 that the supporting plate is formed from material selected from a set of materials consisting of quartz, sapphire, and silicon dioxide. The Office Action states that *Ledger* teaches vacuum chucks and *Semiconductor Memories* teaches silicon dioxide as a backing support for a silicon wafer. The Office Action is silent on the teachings of *Ledger* and *Semiconductor Memories* as to the invention of Claim 1 and are only cited relative to the limitations in Claims 3-5. Nowhere does the Office Action state that *Ledger* and *Semiconductor Memories*, singly or in combination teach or suggest the invention of Claim 1 which includes a supporting plate. Therefore, *Ledger* and *Semiconductor Memories* cannot teach the invention of Claim 1 wherein the supporting plate is selected from a set of materials consisting of quartz, sapphire, and silicon dioxide. Further, no one of ordinary skill in the art would consider the thin layer of silicon dioxide on a silicon wafer that is used as a dielectric insulator as a backing support as its thickness dimension render it useless for such an application.

The Office Action states that *Ledger* teaches a vacuum chuck. However, the Office Action does not state that *Ledger* teaches or suggest the device as recited in Claim 1 further including a vacuum system in fluid communication with said supporting plate to apply a vacuum to said nanolithography template as recited in Claim 4. Also, the Office Action does not state that *Ledger* teaches or suggest the device as recited in Claim 1 further including a vacuum system in fluid communication with said supporting plate to apply a vacuum between said supporting plate and said body as recited in Claim 5.

The Applicant asserts that it would not have been obvious for one of ordinary skill in the art to modify the cited art of *Kumar* (an optical switch) in view of *Miwa* (a process for making an optical disk by injection molding) further in view of *Ledger* (a transparent vacuum chuck for holding a wafer flat) to arrive at the invention of Claim 1 with the limitations of Claims 3-5. Therefore the Applicant asserts that the rejections of Claims 3-5 under 35 U.S.C. § 103(a) as being unpatentable over *Kumar* in view of *Miwa* as applied to claims 1-2, 6-8, 12-15, and 17-18 above, and further in view of *Ledger* and *Semiconductor Memories* are traversed by the above arguments and for the same reasons as Claim 1.

Claims 9-11 are dependent from Claim 8 and contain all the limitations of Claim 8. The Office Action rejected these claims for the same reasons as Claims 3-5. Therefore the Applicant asserts that the rejections of Claims 9-11 under 35 U.S.C. § 103(a) as being unpatentable over *Kumar* in view of *Miwa* as applied to claims 1-2, 6-8, 12-15, and 17-18 above, and further in view of *Ledger* and *Semiconductor Memories* are traversed by the above arguments and for the same reasons as Claim 8.

Claims 16 are dependent from Claim 14 and contain all the limitations of Claim 14. The Office Action rejected these claims for the same reasons as Claims 3-5. Therefore the Applicant asserts that the rejections of Claims 16 under 35 U.S.C. § 103(a) as being unpatentable over *Kumar* in view of *Miwa* as applied to Claims 1-2, 6-8, 12-15, and 17-18 above, and further in view of *Ledger* and *Semiconductor Memories* are traversed by the above arguments and for the same reasons as Claim 14.

II. CONCLUSION

The rejections of Claims 1-18 under *35 U.S.C. § 103(a)* are traversed.

The Applicant asserts that Claims 1-18 are now in condition for allowance and request an early allowance of these claims.

The fees are being paid concurrently herewith on the Electronic Filing System (EFS) by way of Deposit Account authorization. Please apply all charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 21554-042002.

Respectfully submitted,

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